

WHAT IS CLAIMED IS:

1 1. A system for providing a resource associated with
2 an incoming call over a broadband network, comprising:
3 a first node including switching intelligence and
4 narrowband switching fabric, said first node being adapted
5 to provide the resource;
6 a plurality of second nodes each including
7 broadband switching fabric, a termination one of said
8 second nodes having first and second connections thereto
9 associated with the call and being operable to receive the
10 resource from said first node over one of said first and
11 second connections via the broadband network; and
12 an interworking entity operatively connectable
13 to said first node and said plurality of second nodes,
14 said interworking entity being adapted to configure said
15 first and second connections based on instructions
16 provided by the switching intelligence of said first node.

1 2. The system of Claim 1, wherein said first node
2 is comprised of a legacy switch including said narrowband
3 switching fabric.

1 3. The system of Claim 2, wherein an additional one
2 of said plurality of second nodes is interconnected
3 between said termination second node and said first node
4 to convert the resource from a circuit-switched format
5 used by the narrowband switching fabric to a packet-
6 switched format used by the broadband switching fabric.

1 4. The system of Claim 1, wherein said plurality of
2 second nodes comprise at least part of the broadband
3 network.

1 5. The system of Claim 1, wherein the resource
2 comprises a frequency shift keying message.

1 6. The system of Claim 5, further comprising:
2 a frequency shift keying code sender device
3 within said first node for generating the frequency shift
4 keying message.

1 7. The system of Claim 6, further comprising:
2 a group switch within said first node for
3 connecting between said frequency shift keying code sender
4 device and said termination second node.

1 8. The system of Claim 7, further comprising:
2 exchange termination equipment for transmitting
3 the frequency shift keying message to said termination
4 second node.

1 9. The system of Claim 1, wherein said first
2 connection is a call connection over the broadband network
3 associated with the call and said second connection is a
4 temporary connection over the broadband network, the
5 resource being provided over said temporary connection.

1 10. The system of Claim 9, wherein said interworking
2 entity is adapted to break said call connection after said
3 temporary connection is established to provide the
4 resource.

1 11. The system of Claim 10, wherein said termination
2 second node is adapted to switch from said call connection
3 to said temporary connection to break said call
4 connection.

1 12. The system of Claim 10, wherein said termination
2 second node is adapted to maintain said call connection
3 during said temporary connection.

1 13. The system of Claim 12, further comprising:
2 an access node connected to said termination
3 second node, said access node being further connected to
4 a called subscriber associated with the call, said call
5 connection and said temporary connection being connected
6 to said access node, said access node being adapted to
7 switch from said call connection to said temporary
8 connection to break said call connection.

1 14. The system of Claim 10, wherein said interworking
2 entity is further adapted to re-establish said call
3 connection after said temporary connection is broken.

1 15. The system of Claim 1, wherein said first
2 connection is a first call connection over the broadband
3 network associated with an existing call and said second
4 connection is a second call connection over the broadband
5 network associated with the incoming call and the existing
6 call, the resource being sent over said second call
7 connection.

1 16. The system of Claim 15, wherein said termination
2 second node is connected to a called subscriber for the
3 existing call and the incoming call and an origination one
4 of said plurality of second nodes is connected to a
5 calling subscriber for the existing call, said first call
6 connection being connected between said termination second
7 node and said origination second node.

1 17. The system of Claim 16, wherein said termination
2 second node is adapted to switch from said first call
3 connection to said second call connection to receive the
4 resource.

1 18. The system of Claim 17, wherein said origination
2 second node is adapted to switch from said first call
3 connection to a third call connection connected between
4 said origination second node and said first node over the
5 broadband network to maintain the existing call.

1 19. A connection control node including broadband
2 switching fabric for receiving a resource associated with
3 an incoming call via a broadband network, said connection
4 control node being operatively connectable to a call
5 control node including switching intelligence and
6 narrowband switching fabric via an intermediate node for
7 interworking between said call control node and said
8 connection control node, said connection control node
9 comprising:

10 a first connection thereto associated with the
11 incoming call over the broadband network;

12 a temporary connection thereto operable to
13 receive the resource from said call control node via the
14 intermediate node and the broadband network; and

15 means for switching from said first connection
16 to said temporary connection to break said first
17 connection to receive the resource and for switching from
18 said temporary connection to said first connection to

19 break said temporary connection.

1 20. The connection control node of Claim 19, wherein
2 the resource comprises a frequency shift keying message.

1 22. The connection control node of Claim 19, further
2 comprising:

3 means for maintaining said call connection during
4 said temporary connection.

1 23. The connection control node of Claim 19, wherein
2 said first connection is a first call connection over the
3 broadband network associated with an existing call and
4 further comprising:

5 a second call connection over the broadband
6 network associated with the incoming call, said existing
7 call being sent over said temporary connection during the
8 sending of the resource over said temporary connection.

1 24. An intermediate node operatively connectable to
2 a call control node including switching intelligence and
3 narrowband switching fabric and a plurality of connection
4 control nodes each including broadband switching fabric,
5 a termination one of said plurality of connection control
6 nodes for receiving a resource associated with an incoming
7 call over a broadband network, said intermediate node
8 comprising:

9 means for receiving the resource from said call
10 control node;

11 means for configuring first and second
12 connections to the termination connection control node
13 based on instructions provided by the switching
14 intelligence of said first node; and

15 means for providing the resource to the
16 termination connection control node over one of said first
17 and second connections via the broadband network.

1 25. The intermediate node of Claim 24, wherein the
2 resource comprises a frequency shift keying message.

1 26. The intermediate node of Claim 24, wherein the
2 first connection is a call connection over the broadband
3 network associated with the call and the second connection
4 is a temporary connection over the broadband network, and
5 further comprising:

6 means for breaking the call connection after the
7 temporary connection is established to provide the
8 resource over the temporary connection.

1 27. The intermediate node of Claim 26, further
2 comprising:

3 means for re-establishing the call connection
4 after the temporary connection is broken.

1 28. A call control node including switching
2 intelligence and narrowband switching fabric for providing
3 a resource associated with an incoming call over a
4 broadband network to a connection control node having
5 broadband switching fabric via an intermediate node for
6 interworking between said call control node and said
7 connection control node, said call control node
8 comprising:

9 a call conference device operable to connect
10 together a first call connection to the connection control
11 node associated with an existing call over the broadband
12 network, a second call connection to the connection
13 control node associated with the incoming call over the
14 broadband network and a temporary connection for providing
15 the resource to the connection control node over the
16 broadband network.

1 29. The call control node of Claim 28, wherein said
2 call control node is comprised of a legacy switch
3 including said narrowband switching fabric.

1 30. The call control node of Claim 29, wherein the
2 resource comprises a frequency shift keying message.

1 31. The call control node of Claim 30, further
2 comprising:

3 a frequency shift keying code sender device for
4 generating the frequency shift keying message.

1 32. The call control node of Claim 31, further
2 comprising:

3 a group switch for connecting between said
4 frequency shift keying code sender device and said
5 connection control node.

1 33. The call control node of Claim 32, further
2 comprising:
3 exchange termination equipment for transmitting
4 the frequency shift keying message to said connection
5 control node.

1 34. A method for providing a resource associated with
2 an incoming call over a broadband network, comprising the
3 steps of:

4 providing the resource at a first node including
5 switching intelligence and narrowband switching fabric;

6 establishing first and second connections
7 associated with the incoming call towards a termination
8 one of a plurality of second nodes over the broadband
9 network, said first and second connections being
10 configured by a third node based on instructions provided
11 by said first node; and

12 receiving the resource at said termination second
13 node over one of said first and second connections via the
14 broadband network.

1 35. The method of Claim 34, further comprising the
2 step of:

3 converting the resource from a circuit-switching
4 format used by said first node to a packet-switching
5 format used by the broadband network at an additional one
6 of said plurality of second nodes.

1 36. The method of Claim 34, wherein said step of
2 establishing further comprises the steps of:

3 establishing a call connection over the broadband
4 network associated with the incoming call; and

5 establishing a temporary connection over the
6 broadband network associated with the incoming call.

1 37. The method of Claim 36, wherein said step of
2 receiving further comprises the step of:

3 receiving the resource at said termination second
4 node over said temporary connection.

1 38. The method of Claim 37, further comprising the
2 step of:

3 breaking said call connection after said
4 temporary connection is established to provide the
5 resource.

1 39. The method of Claim 38, wherein said step of
2 breaking further comprises the step of:

3 switching, at said termination second node, from
4 said call connection to said temporary connection to break
5 said call connection.

1 40. The method of Claim 38, wherein said step of
2 breaking further comprises the step of:

3 maintaining, at said termination second node,
4 said call connection during said temporary connection.

1 41. The method of Claim 40, wherein said step of
2 breaking further comprises the steps of:

3 connecting said call connection and said
4 temporary connection to an access node connected to said
5 termination second node, said access node being further
6 connected to a called subscriber associated with the call;
7 and

8 switching, at said access node, from said call
9 connection to said temporary connection to break said call
10 connection.

1 42. The method of Claim 40, further comprising the
2 step of:

3 re-establishing said call connection after said
4 temporary connection is broken.

1 43. The method of Claim 34, wherein said first
2 connection is a first call connection over the broadband
3 network associated with an existing call and said second
4 connection is a second call connection over the broadband
5 network associated with the incoming call and the existing
6 call, and wherein said step of receiving further comprises
7 the step of:

8 receiving the resource at said termination second
9 node over said second call connection.

1 44. The method of Claim 43, wherein said step of
2 establishing further comprises the step of:

3 establishing said first call connection between
4 said termination second node and an origination one of
5 said plurality of second nodes.

1 45. The method of Claim 44, wherein said step of
2 receiving further comprises the step of:

3 switching, at said termination second node, from
4 said first call connection to said second call connection
5 to receive the resource.

1 46. The system of Claim 45, further comprising the
2 step of:

3 switching, at said origination second node, from
4 said first call connection to a third call connection
5 connected between said origination second node and said
6 first node over the broadband network to maintain the
7 existing call.

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